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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,253	11/02/2001	Michael A. Sherman	020910-000110US	8689
26541	7590	10/23/2003		
RITTER, LANG & KAPLAN 12930 SARATOGA AE. SUITE D1 SARATOGA, CA 95070			EXAMINER SMITH, CAROLYN L	
			ART UNIT	PAPER NUMBER
			1631	10
DATE MAILED: 10/23/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/053,253

Applicant(s)

SHERMAN ET AL.

Examiner

Carolyn L Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-107 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-107 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____.                                   |

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-23 and 35-40, drawn to a method and computerized code for modeling the behavior of a molecule, classified in class 703, subclass 11. If this Group is elected then ONE of the below summarized specie elections is also required.
- II. Claims 24-34, drawn to a method for modeling the behavior of a first molecule with a plurality of second molecules, classified in class 703, subclass 11. If this Group is elected then TWO of the below summarized specie elections are also required.
- III. Claims 41-73, drawn to a method for screening a library of compounds for interaction with a target, classified in class 702, subclass 19. If this Group is elected then FOUR of the below summarized specie elections are also required.
- IV. Claims 74-77, drawn to a method of evolving a protein to have a desired functional property, classified in class 702, subclass 19. If this Group is elected then ONE of the below summarized specie elections is also required.
- V. Claims 78-79, drawn to a method of humanizing an immunoglobulin chain, classified in class 703, subclass 11. If this Group is elected then ONE of the below summarized specie elections is also required.
- VI. Claims 80-107, drawn to a method of calculating behavior or properties of one or more molecules in specified circumstances, classified in class 703, subclass 2. If this Group is elected then TWO of the below summarized specie elections are also required.

**Specie Election Requirement for Groups I-VI:**

This application contains claims directed to the following patentably distinct species of the claimed invention:

***First Specie Election Requirement For Groups I-VI:***

These Groups contain patentably distinct species, namely L-stable integrators. Please select one specific type of L-stable integrator (i.e. Euler, Radau5, SDIRK3, SDIRK4, etc.) so that examination on the merits of this application may begin.

***Second Specie Election Requirement For Group II:***

Specie A: a second molecule which is a salt

Specie B: a second molecule which is a solvent

Specie C: a second molecule which is a not mentioned above

(If Specie C is elected, please specify which type of molecule)

***Second Specie Election Requirement For Group III:***

Specie D: data determined by X-ray crystallography

Specie E: data determined by infra red spectroscopy

Specie F: data determined by ultraviolet spectroscopy

Specie G: data determined by NMR

Specie H: data determined by other method not listed above

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(If Specie H is elected, please specify which type of data determination method)

***Third*** Specie Election Requirement For ***Group III***:

This Group contains patentably distinct species, namely compounds to be screened. If this Group is elected please select a specific species of compound (i.e. in claims 54 and 55: protein, nucleic acid, polysaccharide, phospholipids, hormone, prostaglandin, steroid, beta-turn mimetic, small aromatic compound, small heterocyclic compound, small benzodiazepine, oligomeric N-substituted glycine, oligocarbamate, or other type of compound not listed above) so that examination on the merits of this application may proceed.

***Fourth*** Specie Election Requirement For ***Group III***:

Specie I: a target which is a protein

Specie J: a target which is a nucleic acid

Specie K: a target which is a carbohydrate

Specie L: a target which is a lipid

***Second*** Specie Election Requirement For ***Group VI***:

Specie M: circumstances which do not comprise a dynamic simulation

Specie N: circumstances which comprise a dynamic simulation

If Specie N is elected, please select one of the following subspecies:

Subspecie AA: circumstances comprising Newtonian dynamics

Subspecie BB: circumstances comprising Langevin dynamics

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Subspecie CC: circumstances comprising a dynamics type not mentioned above

(If Subspecie CC is elected, please specify which type of dynamics)

Applicant is required under 35 U.S.C. 121 to elect a single disclosed specie for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. The distinctness of the L-stable integrators (Groups I-VI) is because each integrator type contains unique characteristics not found in the other integrators. The distinctness or independence among the second molecules (Group II), compounds (Group III), and targets (Group III) is because they are directed to different chemical types featuring different structures and functions. The completely separate chemical and entity types of the invention Groups are often separately characterized and published in literature, thus adding to the search burden if all Groups were examined together. Also, processing that may connect two Groups does not prevent them from being considered distinct because enough processing can result in the production of any composition from another composition as long as the processing is not limited in occurrences such as subtractions, additions, and enzymatic action. The distinctness or independence of the various types of data determination methods (Group III) is because they use different equipment and method steps not found in or used in a different manner than the other data determination methods. The distinctness or independence of circumstances using the various types of dynamic simulations or lack thereof (Group VI) is because these simulations use different method steps not found in or used in a different manner than other data simulations. Thus, the above-mentioned species are independent and/or distinct invention types for restriction purposes.

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Applicant is advised that a reply to this requirement must include an identification of the specie that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should an applicant traverse the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Although there are no provisions under the section for "Relationship of Inventions" in M.P.E.P. § 806.05 for inventive groups that are directed to different processes, restriction is deemed to be proper because these methods appear to constitute patentably distinct inventions for the following reasons: Groups I-VI are directed to methods that recite structurally and functionally distinct elements, are not required one for the other, and/or achieve different goals. Group I requires selecting a model from known models which is not required by any other group. Group II requires selecting two models using more than one molecule which differs from the

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goals of the other Groups. Group III is directed to screening a library of compounds using repetitive selecting and inputting data of library compounds steps as well as a synthesizing step based on target interaction which are not used in other Groups. Group IV is directed to evolving a protein to have a desired functional property using repetitive inputting data for amino acid substitutions of a protein and integration steps as well as a synthesizing step based on motion comparisons which are not used in other Groups. Group V is directed to humanizing an immunoglobulin chain using mouse and human antibody amino acid sequences which is not found in any other Group. Group VI is directed to a method of calculating behavior or properties of one or more molecules in specified circumstances via the construction of mathematical modeling not found in other Groups. These distinct methods are often separately characterized and published in literature and would add undue search burden if they were all examined together. Thus, they are considered distinct invention types for restriction purposes.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement may be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the



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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).


Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR §1.6(d)). The CM1 Fax Center number is either (703) 308-4242 or (703) 305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carolyn Smith, whose telephone number is (703) 308-6043. The examiner can normally be reached Monday through Friday from 8 A.M. to 4:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, can be reached on (703) 308-4028.

Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instruments Examiner Tina Plunkett whose telephone number is (703) 305-3524 or to the Technical Center receptionist whose telephone number is (703) 308-0196.

July 7, 2003

  
ARDIN H. MARSCHEL  
PRIMARY EXAMINER